

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003963**Date Inspected:** 04-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower & OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

OBG Bay 2:

The QA Inspector randomly observed 6 ZPMC machine operators utilizing magnetic drills and templates, to place bolt holes in OBG T-Rib and I-Rib connection plates and Tower Skin Plate Longitudinal Stiffener sections.

OBG Bay 3:

The QA Inspector randomly observed ZPMC welders Shi Wei ID Number 053859, Liu Xuan Xuan 250581 and Wang Hong Bo ID Number 203206, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC Weld Procedure Specification (WPS) WPS-2112-FCM, to tack weld T-Ribs to Side Plate SP611-001 Weld Joint (WJ) Numbers 021/022, 025/026 and 027/028. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Chen Dingding ID Number 048923, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-2112-FCM, to tack weld T-Ribs to Side Plate SP757-001 WJ's 019/020. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

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The QA Inspector randomly observed ZPMC welder Wu Zhibin ID Number 049804, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221--B-L2c-S-2, to weld 35 millimeter (mm) Insert Plate SP5571-X309A to Side Plate SP571-001 at WJ 011. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 578 amps, 30 volts with a travel speed of 490 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Sun Ti Yu ID Number 054459 and Li Zhanqian ID Number 048810, utilizing the FCAW Process in the 2F (Horizontal Fillet) Position on Gantry 1 with ZPMC WPS WPS-4132, to weld 1 each 30 mm I-Rib and 1 each 35 mm I-Rib to Deck Plate DP723/PL1556A+1557A (DP723-001). The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 301/313 amps, 30.1/29.7 volts for Mr. Sun and 293/302 amps, 30.6/30.1 volts for Mr. Li with a travel speed of 350 mm/minute for both welders. The weld parameters appeared to comply with contract requirements.

OBG Bay 4:

The QA Inspector randomly observed ZPMC welders Meng Tao ID Number 068918, Yang Gencheng ID Number 066418 Lu Pang ID Number 048617 and Du Heng Hua ID Number 037779, utilizing the FCAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2132-2, to weld web plates to 43M Top(N) Tower Diaphragm SA27 at WJ's NSD1-SA27B/B-9 and 10. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Yu Dong Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

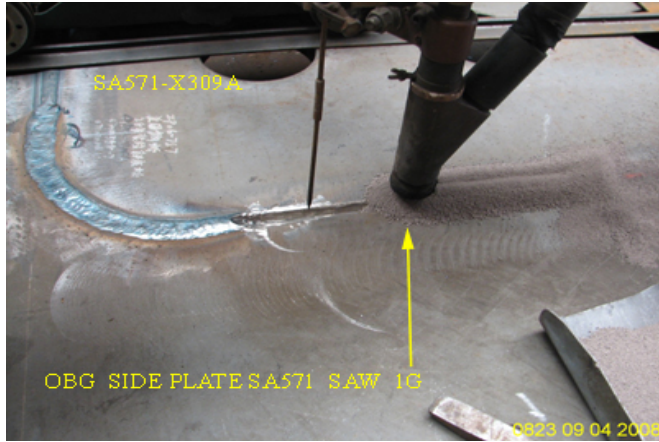
The QA Inspector randomly observed ZPMC welders Wang Zhenghau ID Number 053753 and Dai Lu ID Number 048659, utilizing the FCAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2132-2, to tack weld web plates to 43M Top(W) Tower Diaphragm SA234 at WJ's WSD1-SA234B/B-9 and 10. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Yu Dong Ping monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations on 53M Top (E) Diaphragm Plate piece mark p671, to correct mill induced distortion per ZPMC HSR1(T)-3231.

The QA Inspector randomly observed ZPMC Non-Destructive Testing (NDT) Technician Li Li Ling, utilizing the Magnetic Particle Testing (MT) Method to examine 25% of the cover pass on the fillet welds attaching 35 mm I-Ribs to OBG End Plates EP176A/YT461, EP176B/YT460, EP175A/YT463 and EP175B/YT462. There appeared to be no indications and ZPMC QC accepted the above fillet welds.

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Summary of Conversations:

As noted in the above body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 13816942685, who represents the Office of Structural Materials for your project.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer